CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. 78-33

NPDES NO. CA 0037397

REVISED WASTE DISCHARGE REQUIREMENTS FOR:

STATE OF CALIFORNIA
DEPARTMENT OF CORRECTIONS
SAN QUENTIN PRISON
MARIN COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region, (hereinafter called the Board) finds that:

1. The Board adopted Order No. 74-88 (NPDES No. CA0037397) on September 17, 1974 prescribing waste discharge requirements and compliance time schedules for the California Department of Corrections, San Quentin Prison (hereinafter called the discharger). The Board adopted Order No. 76-45 on May 4, 1976, which amended Order No. 74-88 by specifying supplemental requirements and extending two compliance time schedules.

2. The discharger presently discharges an average of 0.5 mgd of domestic waste mixed with approximately 0.07 mgd of industrial waste into Corte Madera Creek, at a point approximately 1500 feet bayward from the prison's west gate, and about 30 feet offshore.

3. The present treatment facility consists of a primary clarifier, biofilter, sludge digester with drying beds, a recently completed settling pond, and chlorination/dechlorination facilities; all designed to provide intermediate treatment to a plant flow of 1.0 mgd. With the addition of the settling pond, the discharger intends to operate the plant such that a discharge will occur only when a predetermined level is reached in the ponds. Pumping will occur approximately once every day and will continue over a 4 to 5 hour period until a lower designated level is achieved. No plant discharge will occur between pumping cycles.

4. The discharger is presently participating in the Marin-Sonoma Subregional Agency Study to develop a management plan to achieve compliance with the effluent and receiving water limitations and discharge prohibitions contained in the NPDES permit and Basin Plan. The Novato Sanitary District, lead agency for the Subregional Study, completed preparation of the draft EIR/EIS in November 1977, in accordance with the California Environmental Quality Act and the National Environmental Protection Act. The facilities plan for the Central Marin Planning Unit, which includes the San Quentin facility, was completed in December 1977. Public hearings were conducted on the draft EIR/EIS and facilities plans during January and February of 1978 and the testimony received at these hearings is currently being evaluated.

5. Section 301(b) of the Federal Water Pollution Control Act Amendments of 1972 required all publicly-owned treatment works to achieve effluent limitations based upon secondary treatment no later than July 1, 1977. Since the discharger has been participating in the Subregional Study which only recently completed EIR/EIS hearings concerning various subregional consolidation alternatives proposed to best meet Federal and State water quality requirements; the current level of treatment does not meet secondary treatment requirements. However, a compliance time schedule for implementation of the Wastewater Management Plan leading to achieving secondary treatment by this discharger has been developed and is contained herein.

6. Section 45 of the Clean Water Act of 1977 modifies certain provisions, including Section 301, of the Federal Water Pollution Control Act. Section 301(i)(1) now provides that time schedules for publicly owned treatment works achieving secondary treatment limits may be extended if construction cannot be completed by July 1, 1977. The discharger has requested such an extension and the Board finds good cause for such a time extension.

7. The discharger has not completed the infiltration/inflow analysis of its collection system which is required for design of the selected alternative for corrective action in the Subregional Wastewater Management Plan. Funding has been requested in the State budget for the 1978-1979 fiscal year to secure this information. The time schedule, submitted by the Department of Architecture for the remaining items of work, has been modified and is contained herein.

8. A Water Quality Control Plan for the San Francisco Bay Basin was adopted by the Board in April 1975. The Basin Plan contains water quality objectives for Corte Madera Creek and San Francisco Bay.

9. The beneficial uses of Corte Madera Creek and San Francisco Bay are:

   a. Recreation
   b. Fish migration and habitat
   c. Habitat and resting for waterfowl and migratory birds
   d. Industrial and agricultural water supply
   e. Esthetic enjoyment
   f. Navigation
   g. Shellfish propogation and harvesting for non-human consumption

10. The Basin Plan prohibits discharges of wastewater to non-tidal waters, dead-end sloughs, and waters where 10:1 initial dilution is not provided. Corte Madera Creek is a dead-end slough, including the area of the existing outfall. The apparent best alternative in the Wastewater Management Plan proposes termination of the existing shallow water discharge and future discharge of the wastewater, after treatment, to deep water in San Francisco Bay (the wastewater may be transported to a different plant for treatment).

11. As this project's approval is an NPDES permit, this Board, pursuant to Water Code Section 13389, is not required to comply with the provisions of Chapter 3 of Division 13 of the Public Resources Code (California Environmental Quality Act).

12. The discharger and interested agencies and persons have been notified of the Board's intent to revise requirements for the existing discharge and have been provided with the opportunity for a public hearing and the opportunity to submit their written views and recommendations.

13. The Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED that the State of California, Department of Corrections, San Quentin Prison, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, and the provisions of the Federal Water Pollution Control Act, as amended, and regulations and guidelines adopted thereunder, shall comply with the following:

A. Effluent Limitations

1. The discharge of an effluent containing constituents in excess of the following limits is prohibited:

Constituents	Units	30-day Average	7-day Average	Daily Maximum	Instantaneous Maximum
a. BOD*	mg/l	30	45	60	-
	lbs/day	250	-	500	-
	kg/day	113	-	227	-
b. Suspended Solids*	mg/l	30	45	60	-
	lbs/day	250	-	500	-
	kg/day	113	-	227	-
c. Oil & Grease*	mg/l	10	-	20	-
	lbs/day	83	-	167	-
	kg/day	38	-	76	-
d. Chlorine Residual	mg/l	-	-	-	0.0
e. Settleable Matter	ml/l/hr	0.1	-	-	0.2

*See A.2. for interim effluent limitations.

2. Prior to the termination of the discharge at this location, the following interim limitations shall apply:

Constituents	Units	30-day Average	Daily Maximum
a. BOD	mg/l	75	100
	lbs/day	1251	1668
	kg/day	569	758
b. Suspended Solids	mg/l	50	75
	lbs/day	834	1251
	kg/day	380	569
c. Oil & Grease	mg/l	15	25
	lbs/day	250	417
	kg/day	114	190

3. The discharge shall not have a pH of less than 6.5 nor greater than 8.5.

4. In any representative set of samples the waste as discharged shall meet the following limit of quality:

TOXICITY:

Shallow water discharge -

The survival of an acceptable test organism in 96 hour bioassays of the effluent shall achieve a median of 90% survival for three consecutive samples and a 90 percentile value of not less than 70% survival for 10 consecutive samples.

Deep water discharge -

The survival of an acceptable test organism in 96 hour bioassays of the effluent shall achieve a 90 percentile value of not less than 50 percent survival.

5. Representative samples of effluent shall not exceed the following limits more than the percentage of time indicated:(1)

Constituent	Unit of Measurement	50% of time	10% of time
Arsenic	mg/l (kg/day)	0.01 (0.038)	0.02 (0.076)
Cadmium	mg/l (kg/day)	0.02 (0.076)	0.03 (0.114)
Total Chromium	mg/l (kg/day)	0.005 (0.019)	0.01 (0.038)
Copper	mg/l (kg/day)	0.2 (0.76)	0.3 (1.14)
Lead	mg/l (kg/day)	0.1 (0.38)	0.2 (0.76)
Mercury	mg/l (kg/day)	0.001 0.0038)	0.002 (0.0076)
Nickel	mg/l (kg/day)	0.1 (0.38)	0.2 (0.76)

Silver	mg/l (kg/day)	0.02 (0.076)	0.04 (0.151)
Zinc	mg/l (kg/day)	0.3 (1.14)	0.5 (1.89)
Cyanide	mg/l (kg/day)	0.1 (0.38)	0.2 (0.76)
Phenolic Compounds	mg/l (kg/day)	0.5 (1.89)	1.0 (3.79)
Total Identifiable Chlorinated Hydrocarbons(2)	mg/l (kg/day)	0.002 (0.0076)	0.004 (0.0151)

(1) These limits are intended to be achieved through secondary treatment, source control and application of pretreatment standards.

(2) Total Identifiable Chlorinated Hydrocarbons shall be measured by summing the individual concentrations of DDT, DDD, DDE, aldrin, BHC, chlordane, endrin, heptachlor, lindane, dieldrin, polychlorinated biphenyls, and other identifiable chlorinated hydrocarbons.

6. The arithmetic mean of values for BOD and Suspended Solids in effluent samples collected in a period of 30 consecutive days shall not exceed 15 percent of the arithmetic mean of respective values for influent samples collected at approximately the same time during the same period (i.e., 85 percent removal).

7. The total coliform bacteria for a median of five consecutive effluent samples shall not exceed 240 per 100 milliliters. Any single sample shall not exceed a most probable number (MPN) of 10,000 total coliform bacteria per 100 milliliters when vertified by a repeat sample taken within 48 hours.

B. Receiving Water Limitations

1. The discharge of waste shall not cause the following conditions to exist in waters of the State at any place:

a. Floating, suspended, or deposited macroscopic particulate matter or foam;

b. Bottom deposits or aquatic growths;

c. Alteration of temperature, turbidity, or apparent color beyond present natural background levels;

d. Visible, floating, suspended, or deposited oil or other products of petroleum origin;

e. Toxic or other deleterious substances to be present in concentrations or quantities which will cause deleterious effects on aquatic biota, wildlife, or waterfowl, or which render any of these unfit for human consumption either at levels created in the receiving waters or as a result of biological concentration.

2. The discharge of waste shall not cause the following limits to be exceeded in waters of the State in any place within one foot of the water surface:

a.	Dissolved oxygen	5.0 mg/l minimum. Annual median - 80% saturation. When natural factors cause lesser concentration(s) than those specified above, then this discharge shall not cause further reduction in the concentration of dissolved oxygen.
b.	Dissolved sulfide	0.1 mg/l maximum.
c.	pH	Variation from natural ambient pH by more than 0.2 pH units.
d.	Un-ionized Ammonia as N	0.025 mg/l annual median 0.4 mg/l maximum
e.	Nutrients	50 ug/l chlorophyll a maximum. When background levels exceed this requirement, then this discharge shall not add further nutrients.

3. The discharge shall not cause a violation of any applicable water quality standard for receiving waters adopted by the Board or the State Water Resources Control Board as required by the Federal Water Pollution Control Act and regulations adopted thereunder. If more stringent applicable water quality standards are promulgated or approved pursuant to Section 303 of the Federal Water Pollution Control Act, or amendments thereto, the Board will revise and modify this Order in accordance with such more stringent standards.

C. Prohibitions

1. The discharge of wastewater at any point at which the wastewater does not receive an initial dilution of at least 10:1 is prohibited (receiving water to wastewater flow).

2. The discharge of wastewater, which has characteristics of concern to beneficial uses, into any dead-end slough or similar confined water areas or their immediate tributaries is prohibited.

3. There shall be no bypass or overflow of untreated wastewater to waters of the State, either at the plant or from the collection system.

4. The average dry weather flow shall not exceed 1.0 mgd. Average shall be determined over three consecutive months each year.

5. A freeboard of less than two feet in the settling pond is prohibited.

D. Provisions

1. The discharger shall comply with the following time schedule to assure compliance with Effluent Limitations A.1.a, A.1.b, A.1.c, A.4, and A.6; Receiving Water Limitations B.1.a, B.1.c, B.1.e, B.2.c, B.2.d, B.2.e; and Prohibitions C.1 and C.2 of this Order

Task	Completion Date
(a) Complete all work required of the dischargers for the following aspects of the Eastern Marin-Southern Sonoma Wastewater Management Plan:	
1. Project Report Addendum	
. Solids Handling Analysis . Wet Weather flow review . Preliminary Revenue Program . Belvedere I/I . Seafirth Analysis . North Marin Reclamation/Disposal Analysis . Central Marin Population, Energy, Operation, and Maintenance Review	
2. Final EIR/EIS	
. Central Marin Economics . N. Marin Reclamation Analysis . Description of Recommended Projects	by Oct. 1, 1978
(b) Complete all work required of the dischargers necessary for finalization of the EIR/EIS and Project Report for the East Marin-Southern Sonoma Wastewater Management Plan	by Oct. 15, 1978
(c) Submit request for State budget funding of State's share of the facilities costs	by Jan. 1, 1979*
(d) Complete all Joint Powers Agreements and/or institutional arrangements necessary to administer the design, construction, and operation of the proposed facilities	by one month after EIR/EIS is finalized
(e) Submit Joint Powers Agreement to SWRCB legal staff for approval	by one month after EIR/EIS is finalized

Task		Completion Date
(f)	Submit final Project Report, final EIR/EIS and Step 2 grant application (with value engineering proposal) to SWRCB and this Board	by one month after EIR/EIS is finalized
(g)	Submit application for NPDES permit and time schedule for design and construction of facilities necessary to achieve compliance	by one month after EIR/EIS is finalized
(h)	State budget adopted with funding for proposed facilities	by August 1, 1980
(i)	State Public Works Board approval and authorization for facilities funding	by November 1, 1980

*If the Environmental Protection Agency does not finalize the EIS by this date, the discharger shall complete the task in the shortest reasonable period of time after the EIS is finalized.

2. **The discharger shall submit a satisfactory Infiltration/Inflow Analysis report on its sewer system in accordance with the following schedule:**

Task		Completion Date
(a)	State Budget adopted with funding for I/I Analysis	by August 1, 1978
(b)	State Public Works Board approval and authorization for I/I analysis funding. Begin selection of engineering consultant.	by November 1, 1978
(c)	Complete selection of engineering consultant and begin I/I analysis	by December 1, 1978
(d)	Complete I/I analysis and submit report of proposed corrective action to this Board and Marin-Sonoma Subregional Project consultant.	by July 1, 1979

3. The discharger is required to provide to the Board by June 15, 1978, and monthly thereafter, a report, under penalty of perjury, on progress toward compliance with the provisions of this Order.

4. The discharger shall comply with all other effluent and receiving water limitations, prohibitions and provisions of this Order immediately.

5. The requirements prescribed by this Order supersede the requirements prescribed by Order No. 74-88 and Order No. 76-45 adopted by the Board on September 17, 1974 and May 4, 1976, respectively. Order Nos. 74-88 and 76-45 are hereby rescinded.

6. The discharger shall review and update its contingency plan annually as required by Board Resolution No. 74-10. The discharge of pollutants in violation of this Order where the discharger has failed to develop and/or implement a contingency plan will be basis for considering such discharge a willfull and negligent violation of this Order pursuant to Section 13387 of the California Water Code.

7. If the discharger elects to comply with the specifications of this Order listed in provision D.1 by construction of separate treatment plant improvements rather than by participation in the subregional treatment and disposal program, this Board will consider adoption of more stringent requirements, and/or prohibitions to protect shellfish beds for the harvesting of shellfish for human consumption.

8. The discharger shall comply with the Self-Monitoring Program as ordered by the Executive Officer.

9. The discharger shall comply with all items of the attached "Standard Provisions, Reporting Requirements and Definitions" dated April 1977 except B.3.

10. This Order expires May 1, 1983. The discharger must file a report of waste discharge in accordance with Title 23, Chapter 3, Subchapter 9 of the California Administrative Code not later than 180 days in advance of such expiration date as application for issuance of new waste discharge requirements.

11. This Order shall serve as a National Pollutant Discharge Elimination System permit pursuant to Section 402 of the Federal Water Pollution Control Act or amendments thereto, and shall become effective 10 days after date of its adoption provided the Regional Administrator, Environmental Protection Agency, has no objection. If the Regional Administrator objects to its issuance, the permit shall not become effective until such objection is withdrawn.

I, Fred H. Dierker, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on May 16, 1978.

FRED H. DIERKER
Executive Officer

Attachments:
Standard Provisions, Reporting
Requirements & Definitions

Self-Monitoring Program

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

SELF-MONITORING PROGRAM
FOR

STATE OF CALIFORNIA, DEPARTMENT OF CORRECTIONS

SAN QUENTIN PRISON

MARIN COUNTY

NPDES NO. CA 0037397

ORDER NO. 78-33

CONSISTS OF

PART A

AND

PART B

PART B

I. DESCRIPTION OF SAMPLING STATIONS

A. INFLUENT AND INTAKE

Station	Description
A-1	At any point in the treatment facilities headworks at which all waste tributary to the system is present and preceding any phase of treatment.

B. SETTLING POND

Station	Description
P-1 thru P-'n'	Located at 25 foot intervals on the dike separating the settling pond from the Bay waters.

C. EFFLUENT

Station	Description
E-001	At any point in the outfall from the treatment facilities between the point of discharge and the point at which all waste tributary to that outfall is present. (May be the same as E-001-D.)
E-001-D	At any point in the disinfection facilities for Waste E-001 at which point adequate contact with the disinfectant is assured.

D. RECEIVING WATERS

Station	Description
C-1	At a point in San Francisco Bay, located approximately 15 feet down current from the point of discharge.
C-2	At a point in San Francisco Bay, located northerly of the diffuser and midway between the shoreline and diffuser.
C-3	At a point in San Francisco Bay, located in the existing channel and approximately 200 feet southeasterly of the diffuser.
C-4	At a point in San Francisco Bay, located in the existing channel and approximately 200 feet northwesterly of the diffuser.

E. LAND OBSERVATIONS

Station	Description
L-1 thru L-'n'	Located at the corners and midpoints of the perimeter fenceline surrounding the treatment facilities. (A sketch showing the locations of these stations will accompany each report.)

F. OVERFLOWS AND BYPASSES

Station	Description
O-1 thru O-'n'	Bypass or overflows from manholes, pump stations, or collection system.

Note: Initial SMP report to include map and description of each known bypass or overflow location.

Reporting - Shall be submitted monthly and include date, time, and period of each overflow or bypass.

II. SCHEDULE OF SAMPLING AND ANALYSIS

A. The schedule of sampling and analysis shall be that given as Table I.

III. NON-APPLICABLE PARAGRAPHS OF PART A

A. Does not include the following paragraphs of Part A:

C-3
C-4

I, Fred H. Dierker, Executive Officer, hereby certify that the foregoing Self-Monitoring Program:

1. Has been developed in accordance with the procedure set forth in this Regional Board's Resolution No. 73-16 in order to obtain data and document compliance with waste discharge requirements established in Regional Board **Order No. 78-33.**

2. Was ordered by the Executive Officer on **May 16, 1978,** and becomes effective immediately.

3. May be reviewed at any time subsequent to the effective date upon written notice from the Executive Officer or request from the discharger and revisions will be ordered by the Executive Officer.

FRED H. DIERKER
Executive Officer

Attachment:
Table I

TABLE I

SCHEDULE FOR SAMPLING, MEASUREMENTS, AND ANALYSIS

Sampling Station	A-1	E-001		E-001-D		All Sta^C	All Sta^P	All Sta^L	All Sta^O				
TYPE OF SAMPLE	C-24	G	C-X	G	C-X	G	O	O	O				
Flow Rate (mgd)	D				D								
BOD, 5-day, 20° C, or COD (mg/l & kg/day)	W				W								
Chlorine Residual & Dosage (mg/l & kg/day)		2/D Cont											
Settleable Matter (ml/l-hr. & cu. ft./day)				D									
Total Suspended Matter (mg/l & kg/day)	W				W								
Oil & Grease (mg/l & kg/day)	2M				2M								
Coliform (Total) (MPN/100 ml) per req't				3/W		M							
Fish Toxicity, 96-hr. TL_{50} % Survival in undiluted waste			M										
Ammonia Nitrogen (mg/l & kg/day)					3M								
Nitrate Nitrogen (mg/l & kg/day)					3M								
Nitrite Nitrogen (mg/l & kg/day)					3M								
Total Organic Nitrogen (mg/l & kg/day)					3M								
Total Phosphate (mg/l & kg/day)					3M								
Turbidity (Jackson Turbidity Units)					M	M							
pH (units)		D				M							
Dissolved Oxygen (mg/l and % Saturation)		D				M							
Temperature (°C)		D				M							
Apparent Color (color units)			M			M							
Secchi Disc (inches)						M							
Sulfides (if DO < 5.0 mg/l) Total & Dissolved (mg/l)		W				M							
Arsenic (mg/l & kg/day)			Y										
Cadmium (mg/l & kg/day)			Y										
Chromium, Total (mg/l & kg/day)			Y										
Copper (mg/l & kg/day)			Y										
Cyanide (mg/l & kg/day)			Y										
Silver (mg/l & kg/day			Y										
Lead (mg/l & kg/day)			Y										

TABLE I (continued)
SCHEDULE FOR SAMPLING, MEASUREMENTS, AND ANALYSIS

Sampling Station	A-1	E-001		E-001-D		C	P	L	O				
TYPE OF SAMPLE	C-24	G	C-X	G	C-X	G	O	O	O				
Mercury (mg/l & kg/day)			Y										
Nickel (mg/l & kg/day)			Y										
Zinc (mg/l & kg/day)			Y										
PHENOLIC COMPOUNDS (mg/l & kg/day)			Y										
Total Identifiable Chlorinated Hydrocarbons (mg/l & kg/day)			Y										
All Applicable Standard Observations				D		M	W	W	E*				
Un-ionized Ammonia as N (mg/l)						3 M**							

LEGEND FOR TABLE

TYPES OF SAMPLES

G = grab sample
C-24 = composite sample - 24-hour
C-X = composite sample - X hours (flow weighted sample taken at hourly intervals during discharge starting one-half hour after pumping commences)
Cont = continuous sampling
O = observation (See Part A, Section 5)

TYPES OF STATIONS

A = treatment facility influent stations
E = waste effluent stations
C = receiving water stations
L = treatment facilities perimeter stations
P = basin and/or pond levee stations
O = overflows and bypass

FREQUENCY OF SAMPLING

E = each occurrence
D = once each day
W = once each week
M = once each month
Y = once each year, in September
2/D = twice per day
3/W = 3 days per week
2M = every 2 months
3M = every 3 months
Cont = continuous

*During any day when bypassing occurs from any treatment unit(s) in the plant, the monitoring program for the effluent shall include the following in addition to the above schedule for sampling, measurement, and analyses:

1. Composite sample for BOD, Total Suspended Solids, Oil and Grease (Influent and Effluent).

2. Grab sample for Total Coliform, Settleable Matter, and Chlorine Residual (continuous or every two hours).

3. Continuous monitoring of flow.

**Un-ionized ammonia testing at station C-2 not required.